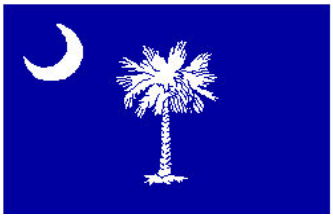
# NOAA Research in South Carolina



**SC-1 through 6 (Based in Charleston - serves entire state)**

**National Sea Grant College Program**
**South Carolina Sea Grant Consortium**

The South Carolina Sea Grant Consortium, part of the National Sea Grant College Program, is a statewide program of research, education, and extension services that works to promote the wise use of marine resources. Current research projects are targeting topics such as water quality, transport mechanisms, aquaculture, and oyster reefs as biologically-critical estuarine ecosystems. The South Carolina Sea Grant Consortium also co-organizes Beach Sweep/River Sweep, South Carolinas largest one-day volunteer clean-up event. Every third Saturday in September, thousands of South Carolinians clear beaches, rivers, lakes, marshes, and swamps of aquatic debris. In FY 2001, South Carolina Sea Grant projects received funding of approximately $2.5 million from the National Sea Grant College Program. For more information please visit http://www.csc.noaa.gov/SCSeaGrant/

**SC-1 (Charleston)**

**Ocean Exploration**

In 2001, with a $4 million appropriation from Congress, NOAA launched a systematic, strategic effort through the Office of Ocean Exploration to search and investigate the oceans for the purpose of discovery. The city of Charleston was critical to Ocean Exploration outreach and education initiatives. On October 1, 2001 four ships docked in Charleston for an open house. Approximately 700 local school children visited the ships to learn about the research conducted during the Deep East and Islands-in-the-Stream voyages. The school children got to talk with scientists about their work and learn about the tools they use. The College of Charleston provided leadership and technical expertise in the development of Deep East education products including lesson plans that were created and adapted for use with hearing impaired students, and a live web-chat conducted during the cruise. Additional information about the two voyages and the importance of outreach and education can be found at our website. For more information please visit http://www.oceanexplorer.noaa.gov

**SC-1 (Charleston)**

**Environmental Technology Laboratory**
**Atmospheric Instrumentation on NOAA Ship RONALD H. BROWN**

NOAA's Environmental Technology Laboratory has installed several important new atmospheric remote-sensing instruments on NOAA Ship RONALD H. BROWN, whose home port is Charleston. A powerful Doppler weather radar, very similar to National Weather Service WSR-88D radars (NEXRAD), will study precipitation at sea. A Doppler wind profiling radar will measure how wind changes from the ocean surface up into the free troposphere. These new measurements will help

scientists better understand the hydrologic cycle and how energy (heat, moisture, and wind) is transported throughout the atmosphere, from the equator to the poles, and thereby better predict how human and nature's influences will affect climate. For more information please visit http://www.etl.noaa.gov

**SC-1 (Charleston)**

**Forecast Systems Laboratory**
**GPS Meteorological Observing System**

NOAA's Forecast Systems Laboratory (FSL) operates a rapidly expanding network of GPS Meteorological (GPS-Met) Observing Systems to monitor the total quantity of precipitable water vapor in the atmosphere. Currently, there are 93 systems over the contiguous 48 states and Alaska, and plans are being made to extend these observations to Hawaii, Puerto Rico, the Caribbean Islands, and Central America. Water vapor is an important but under-observed component of the atmosphere that plays a major role in severe weather events and the global climate system. GPS-Met systems provide accurate water vapor measurements under all weather conditions, including thick cloud cover and precipitation, and do so at very low cost. The major reason why this system is so economical is that the network is being developed by FSL in cooperation with federal, state and local government agencies, universities, and the private sector. The GPS stations provide high-accuracy surveying and navigation services for National defense, automated agriculture, safe land and marine transportation, government infrastructure management, and 911 emergency response services. Fortuitously, these systems can also be used for meteorology with the addition of surface weather sensors. A GPS-Met system operated by the U.S. Coast Guard is located near Charleston. For more information please visit http://www.gpsmet.noaa.gov/jsp/index.jsp

**SC-1, 2, and 6 (coastline)**

**Atlantic Oceanographic and Meteorological Laboratory**
**Hurricane Research**

The Atlantic Oceanographic and Meteorological Laboratory's Hurricane Research Division (HRD) conducts an annual field program during peak hurricane season, flying NOAA's two WP-3D Hurricane Hunter aircraft into all hurricanes threatening US coastlines. Dropsondes and onboard radar are used to profile hurricane winds and storm structure. HRD scientists then transmit real-time information to the National Hurricane Center (NHC) at the Tropical Prediction Center, one of NOAA's National Centers for Environmental Prediction (NCEP). An HRD workstation at NHC processes the aircraft data to generate products for hurricane specialists. NOAA's G-IV jet is also used in the field program to profile wind currents surrounding and influencing the storm's track. HRD scientists incorporate these and other data to create wind analyses of hurricanes. These analyses are crucial in identifying regions of strong winds in the storm and are distributed to local emergency managers for hurricane warning and evacuation determinations. HRD scientists are also studying the characteristics of hurricane winds before and after landfall to help determine expected wind impacts as a hurricane moves over land. For more information please visit http://www.aoml.noaa.gov/hrd/index.html

**SC-1, 2, and 6 (coastal waters)**

**National Undersea Research Program**
**Undersea Research Center at the University of North Carolina-Wilmington**

Undersea research is in situ oceanography conducted by divers, often with the use of submersibles and robots. The Undersea Research Center at the University of North Carolina-Wilmington is one of six regional centers of the National Undersea Research Program (NURP). The Center is responsible for research along the Southeastern United States and the Gulf of Mexico. Key research includes studies of the health of coastal reef systems in the Florida Keys and the Flower Garden Banks, beach erosion, studies of marine fisheries population dynamics/habitat associations/recruitment processes, support of research lithospheric resources and processes (including those related to offshore oil drilling, climate change, sea level history, and sea floor evolution) and carbon cycling as it concerns the air-sea interaction in global warming. In FY 2001, the Center at Wilmington received funding of $2.64 million. For more information please visit http://www.uncwil.edu/nurc/

For further information about these and other NOAA programs, please contact NOAA's Office of Legislative Affairs at (202) 482-4981.

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